

**REMARKS**

Upon entry of Applicants' Amendment, claims 1-2 and 4-28 are all the claims pending in the application.

Claims 7-11 and 14-16 are allowed.

Claims 5 and 17-24 are withdrawn from consideration as directed to non-elected subject matter.

Claim 3 is canceled.

Claims 1, 12, and 13 are amended.

Claim 1 is amended to incorporate the recitations of dependent claim 3.

Claim 12 is amended to recite that "the alkali halide represented by MX in formula (I) is potassium halide."

Claim 13 is amended to include a period at the end of the claim.

No new matter is added to the claims and it is respectfully requested that the amendment be entered.

The disclosure is objected to because "21" in lines 11, 12, and 16 on pg. 39 should apparently be --22-- (see Fig. 9).

In response, Applicants amend the specification accordingly.

Claim 13 is objected to because it lacks a period.

In response, Applicants amend claim 13 to include the necessary period.

Claim 12 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

It is asserted that in claim 12, the recitation that "the alkali halide represented by MX in formula (I) is potassium" fails to specify the halogen in the alkali halide and is thus indefinite.

In response, Applicants amend claim 12 to recite that "the alkali halide represented by MX in formula (I) is potassium halide." Claim 12 as amended is clear and definite, and it is respectfully requested that the rejection be withdrawn.

Claims 1-4 and 6 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,556,716 ("Herron") in view of U.S. Patent US 4,450,126 ("Kesting").

In regard to claims 1-4, Herron is asserted to disclose a radio-conductive material in the form of a nano-composite comprising nylon and inorganic material having radiation absorbing power.

It is conceded that Herron does not disclose the nylon as an alcohol-soluble nylon. Therefore, it is asserted that it would have been obvious to one having ordinary skill in the art to provide an alcohol-soluble nylon such as a composite material of nylon 6 and nylon 66 as the nylon in the solid sensor of Herron, in order to obtain a radio-conductive film having high burst strength.

In regard to claim 6 which is dependent on claim 1, Herron is asserted to disclose a solid sensor having a radio-conductive layer formed of a radio-conductive material, as defined in claim 1.

In response, Applicants respectfully traverse. Claim 1 is amended to recite a composite material of nylon 6 and nylon 66, and claim 3 is canceled.

As one of ordinary skill fully appreciates, nylon has many variants. It is not suggested or disclosed in the references which variant of nylon is appropriate as a radio-conductive material. Nor is there any teaching or suggestion that the kind of nylon is result-effective in this respect.

Therefore, it would not have been obvious from the cited art to attain the present invention which uses the composite material of nylon 6 and nylon 66.

The inventor has discovered that the claimed radio-conductive material having excellent properties can be obtained by using a composite of nylon 6 and nylon 66 (*see, e.g.*, table 1 at page 28 of the specification).

Further, when the claimed alcohol-soluble nylon is used, it is possible to produce the radio-conductive material by a liquid deposition process (claim 5), whereby a more uniform material can be produced.

On the other hand, Herron teaches a method for producing BiI3-Nylon using a solid phase method. This is a different process and in no way suggests the invention of Applicants' claims. This is illustrated by the fact that it is impossible to produce a uniform material by the disclosed method.

Therefore, claims 1, 2, 4 and 6 are not obvious in view of Herron, and it is respectfully requested that the rejection be reconsidered and withdrawn.

Claims 25, 26, and 28 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,556,716 ("Herron").

It is conceded that Herron does not disclose indium as the subject metal. Therefore, it is asserted that metals such as indium are well known in the art, citing Merriam-Webster's Collegiate® Dictionary, Tenth Edition. On this basis, it is asserted that it would have been obvious to one having ordinary skill in the art to provide indium as the metal for the electrode (70) in the solid sensor of Herron in order to form a metallic conductive electrode.

In regard to claim 28 which is dependent on claim 25, Herron is asserted to disclose a radiation image read-out apparatus (column 1, line 53 to column 2, line 4) comprising the solid sensor defined in claim 25 and a read-out means for reading out a radiation image recorded on the solid sensor as a latent radiation image.

In response, Applicants respectfully traverse. A *prima facie* obviousness rejection has not been established.

Applicants strenuously disagree with the characterization of indium as an obvious choice for the electrode of Applicants' claims. The citation of Webster's Dictionary does not provide any motivation why one of ordinary skill would modify Herron to specifically include an indium electrode. The mere fact that indium was known as a metal at the time of Applicants' invention does not provide a basis selection of indium in Applicants' claims.

Moreover, even if the use of an indium for electrodes was known at the time the present application was filed, it would not have been obvious to select an indium electrode for a solid sensor.

Herron merely teaches using Au for an electrode.

The inventor has discovered that when an indium electrode is used for a solid sensor, the solid sensor provides superior performance as shown in Fig. 13. At the time of the present invention, it would not have been expected to use indium, which is much less conductive than gold, for an electrode in a solid sensor.

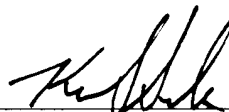
Therefore, it is respectfully requested that the rejection be reconsidered and withdrawn.

AMENDMENT UNDER 37 C.F.R. § 1.111  
Appln. No. 09/777,682

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Keith B. Scala  
Registration No. 43,088

SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON OFFICE



23373

PATENT TRADEMARK OFFICE

Date: February 26, 2003

**APPENDIX**  
**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE SPECIFICATION:**

**The specification is changed as follows:**

**Page 39, first full paragraph:**

The radio-conductive material may be pressed by the use of any apparatus so long as it can uniformly press the material. However it is preferred that the apparatus be provided with a temperature controller. For example, a pressing apparatus shown in Figure 9 is preferable. The substrate 103 with radio-conductive material layer is placed between upper and lower heating plates 20 and ~~24~~ 22 and the upper heating plate 20 is pressed toward the lower heating plate ~~24~~ 22 at a uniform pressure as shown by the arrow with the four corners of the substrate 103 kept fixed. The upper heating plate 20 may be formed, for instance, of carbon steel SK3 and the lower heating plate ~~24~~ 22 may be formed, for instance, of rolled steel for general structural material SS41. The higher the pressure to be applied to the radio-conductive material layer is, the more the voids are removed. However, it is preferred that the pressure be not higher than 50kg/cm<sup>2</sup> so that the substrate 103 is not broken or deformed. It is preferred that the substrate 103 be heated during pressing to a temperature, which is preferably in the range of 50 to 200°C, and more preferably in the range of 120 to 190°C.

**IN THE CLAIMS:**

**Claim 3 is canceled.**

**The claims are amended as follows:**

AMENDMENT UNDER 37 C.F.R. § 1.111  
Appln. No. 09/777,682

Claim 1. (Amended)            A radio-conductive material comprising alcohol-soluble nylon and inorganic material having radiation absorbing power, wherein the alcohol-soluble nylon is a composite material of nylon 6 and nylon 66.

Claim 12. (Amended)            A radio-conductive material as defined in Claim 7 in which the alkali halide represented by MX in formula (I) is potassium halide.

Claim 13. (Amended)            A radio-conductive material as defined in Claim 7 in which the alkali halide represented by MX in formula (I) is potassium fluoride.